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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,352	12/08/2000	Kirk P. Bumgarner	SP00-038	2858
22928	7590	06/16/2004	EXAMINER	
CORNING INCORPORATED			HOFFMANN, JOHN M	
SP-TI-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	
			1731	

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,352

Applicant(s)

BUMGARNER ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-30, 33-37, 59 and 60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-30, 33-37, 59 and 60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

As pointed out by Applicant, the previous notice of non-responsiveness was not proper. The amendment was in proper form.

Claim Rejections - 35 USC § 102

Claims 1, 13-16, 20, 59-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Knowles 4148218.

The invention is disclosed at col. 2, lines 28-48. The clutch mechanically monitors the tension. When the tension becomes sufficiently large, the clutch reduces the speed of the capstan by permitting slippage in the clutch. See McKay 4601208 (col. 1, lines 31-50) which discloses that this is what happens). It is noted that the claims do not require the tension be measured: in applicant's embodiment, the load cell would detect a force equal to twice the tension.

It is noted that the term "load cell" is not defined in the specification. Also, examiner did not find any mention of any particular load cell used. In fact, the drawings do not appear to show a load cell. Furthermore, Examiner could not find a definition for "cell" in a dictionary that would encompass Applicant's invention, but not the Knowles clutch. Since Applicant's cell and Knowles serve the same function (i.e. monitor tension so as to maintain tension) it is deemed that Knowles clutch is a "load cell".

Alternatively, 29 is the load cell. Col. 3, lines 26-31 indicate that one can control the tension by modifying the power output of the clutch. As per equation 12-17 of

Halliday and Resnick's "Fundamentals of Physics". $\text{Power} = (\text{torque})(\text{angular velocity})$. Since Knowles is using a constant torque device (col. 2, line 31), when one modifies the power the angular velocity has to change – because the torque is constant.

Or to look at it another way: the speed of the capstan is adjusted in response to feedback. Col. 2, lines 35-37 indicates that the clutch works by slipping. From col. 3, lines 26-31: the feed back of the cell causes the power output to change. In otherwords, the slippage rate changes – which will inherently change/adjust the speed of the capstan. Applicants apparatus and the Knowles apparatus work on the same principle – the difference in capstan speeds causes the tension. Thus when one changes the speed, the tension will change.

Claims 59-60 are clearly met.

Claims 13-14 are clearly met.

Claim 16: 33 of figure 2 of Knowles is the pulley which is connected (via 11) to the load cell. The fiber contact causes the pulley to rotate because the pulley is an idler wheel (col.3, line16).

Claim Rejections - 35 USC § 103

Claims 1-3, 11, 13, 14, 16-22, 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowles 4148218.

As an alternative to the above discussion: Knowles doesn't disclose the type of clutch. In accordance with the basic laws of physics: one realizes that if one changes power transfer of a clutch (as Knowles discloses), since the total amount of supplied

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torque is constant, one would want to use a clutch which will change the velocity of the capstan, because one cannot change the power without an inherent change in the velocity.

Alternatively: it would have been obvious to one of ordinary skill to use a clutch that changes the slippage rate when one changes the power output of the clutch. Knowles does not disclose any details about the clutch that is used. However, col. 2, lines 35—37 indicates to one of ordinary skill, that when the torque (applied by the motor to the shaft) gets too high, the clutch will slip. One of ordinary skill would realize that when one changes the “overload” threshold, one would change the amount that the clutch slips. And therefore the final velocity of the capstan will change: more clutch slippage yields a lower velocity (because there is a reduction in angular velocity). Less slippage gives a higher velocity.

Claim 2: it would have been obvious to draw the fiber as fast as possible so as to make as much fiber as fast as possible.

Claims 3, 21-22: it would have been obvious to make the fiber as strong as strong as possible and to proof test it to the high strength level.

Claim 11: a fiber is suppose to conduct light. IT would have been obvious to make sure that the fiber conducts light through its entire length.

Claims 18-19, 36-37: it would have been obvious to have as much or as little fiber on the spool as desired.

Claim 23: it would have been obvious to sell the spool of fiber to make money. It would have been further obvious to ship it to the buyers so that they don't have to personally pick it up.

Claim 17: There is no disclosure of using a computer. It would have been obvious to have all of the features being connected and/or controlled by a computer so as to easily monitor the process variables, and to store the data so that one can go back and review what went wrong and what went right.

Claims 4-12, 23-30, 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowles as applied to claims 1-3, 11, 18-19, 21-23 above, and further in view of Bice 5787216.

KNOWLES does not disclose the ends being accessed or the optical testing. Bice, starting at col. 1, line 26, discloses that one of the most important tests is OTDR which requires that the fiber be such that light travels from one end of the fiber (and back'?). This requires that the light be accessible to both ends of the fiber', because it must travel to the second end if it is to reflect back from that end. The other end can be accessed by light. It would have been obvious to perform OTDR on the Knowles fiber, because it is one of the "most important" tests to make sure the fiber is not damaged.

Claim 5: it would have been obvious to sell the spool of fiber to make money. It would have been further obvious to ship it to the buyers so that they don't have to personally pick it up. This can also be applied to claim 12

The limitations of claims 23-30, 33-35 would have been obvious for the reasons given above.

Response to Arguments

Applicant has supplied two references. The relevance of these are not understood. There is no indication of the date of the references – there is no reason to believe that they constitute evidence as to what is meant by “load cell” at the time of the invention. Also, the Capgo Glossary is a specialized dictionary – that is not directed to the fiber making art. Nor is it directed to the clutch art. In as much as that same reference defines “bridge” to such an extent it excludes the most usual definition (i.e. a bridge of the road type) it does not appear reasonable to conclude that one of ordinary skill in the fiber making art would look to a “sensor” glossary to determine the scope of a claim. Furthermore looking at “volt” – the so called definition merely describes what it is, it does not define it. A millivolt is also “a unit of electromotive force or potential difference”. The Cornell reference is not convincing for essentially the same reason – more importantly, it is not even indicated as to what art it is relevant to (is it a fiber optic glossary?)

Furthermore each reference has a different definition. So it is unclear which one Applicant is asserting the proper definition. MOST IMPORTANTLY, whereas it is very likely that Applicant will submit proper evidence, the rejection based on Knowles contains an additional obviousness-based rejection.

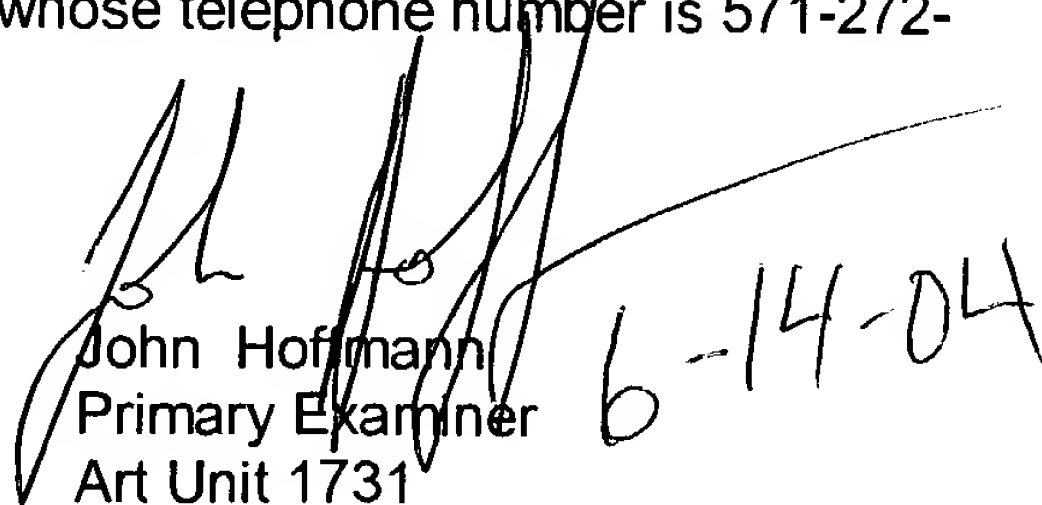
As to the confusion over the Office's statements regarding the definition of monitor: the only evidence that is relevant, is that which is directed to what the invention is at the time of the invention. If no date is supplied with evidence, there is no way to determine whether it speaks to how a term is used prior to Applicant's invention, or subsequent thereto. Likewise, pages, author, and all other relevant information is needed when submitting evidence.

The other arguments are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.


John Hoffmann
Primary Examiner
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6-14-04